Asphalt Roofing Manufacturers Association

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July 10, 2006

Elaine Hebert, Contract Manager
Efficiency, Renewables, and Demand Analysis Division
California Energy Commission
1516 Ninth Street, MS-25
Sacramento, CA 95814

RE: 2008 California Energy Efficiency Standards
Life Cycle Costs

Dear Ms. Hebert:

This letter is a formal request for the California Energy Commission (CEC) to revise the way in which life cycle costs (LCC) are estimated and used for evaluating the cost effectiveness of proposed prescriptive requirements for solar reflectance and thermal emittance requirements for roofing. We believe the method used is misleading and understates the actual LCC associated with the proposed changes.

As part of the 2008 update process, two proposed code change documents were submitted regarding prescriptive requirements for residential and non-residential roofs:

- *Inclusion of Solar Reflectance and Thermal Emittance Prescriptive Requirements for Residential Roofs in Title 24* (Revised May 17, 2006)
- *Inclusion of Solar Reflectance and Thermal Emittance Prescriptive Requirements for Steep-Sloped Nonresidential Roofs in Title 24* (Revised May 18, 2006)

In the cost effectiveness evaluations, both of these proposed code change documents use the same methodology to estimate the net present value (NPV) of a roof over a 30-year life cycle. Essentially, the difference in initial installed costs of “cool” and “non-cool” roofs is used as the NPV of increased costs over the 30-year evaluation period. It is our understanding that the reasoning behind using this simplified approach is that other costs associated with cool verses non-cool roofs over the 30-year cycle are the same and therefore need not be considered. We respectfully disagree. Costs incurred during a 30-year cycle for many “cool” roofs differ significantly from the costs associated with comparable “non-cool” roofs.

Incremental Replacement Cost Premiums - The current method does not include the NPV of the incremental cost premiums associated with replacing a “cool roof” with a “cool roof” within the 30 year period. This is inappropriate because the average life of nearly all membrane roof systems is less than thirty years. Incremental cost premiums would be incurred at least once or twice within the 30 year period and should be considered. Refer to study by Carl Cash, Principal of the well known and respected engineering firm Simpson Gumpertz and Heger, "2005 Roofing Industry Durability and Cost Survey" for average life information for many different steep and low-sloped roof coverings.

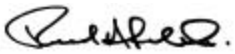
Recoating Costs - In addition, the current method does not include the NPV of costs associated with recoating a "cool-roof" that relies on the coating for its reflectivity. This is inappropriate because roofs that are coated with paint-like materials typically are recoated at least once, and sometimes more, during their service lives depending on exposure conditions and the type of coating material used. In contrast, roofs surfaced with gravel aggregate or factory-applied mineral surfacing typically require no resurfacing during their service life.

Accordingly, ARMA respectfully requests the CEC consider using LCC cost premium figures that include not only incremental installed cost premiums but also:

- The NPV of incremental premium costs associated with replacing the roofs every 14, 16, 18, or 25 years depending on the roof system in question (see Carl Cash Study referenced above), and
- The NPV of recoating cool coated roofs every 7.5 years

ARMA looks forward to continuing to work cooperatively with the Commission as part of the 2008 Update process. Please do not hesitate to contact me if you have any comments or questions. I look forward to seeing you in Sacramento on July 13.

Sincerely,



Reed B. Hitchcock
General Manager

CC: ARMA RSG
Bill Pennington, CEC